FOR PUBLICATION

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

MARY SULLIVAN, *Plaintiff-Appellant,* v. UNITED STATES DEPARTMENT OF THE NAVY; NAVAL MEDICAL CENTER; DOES, 1 through 50, inclusive, *Defendants,* and UNITED STATES OF AMERICA, *Defendant-Appellee.*	No. 02-57006 D.C. No. CV-01-00425-TJW/JFS OPINION

Appeal from the United States District Court
for the Southern District of California
Thomas J. Whelan, District Judge, Presiding

Argued and Submitted
February 6, 2004—Pasadena, California

Filed April 23, 2004

Before: John T. Noonan, Sidney R. Thomas, and
Carlos T. Bea, Circuit Judges.

Opinion by Judge Noonan

COUNSEL

James McElroy, San Diego, California, for the plaintiff-appellant.

Richard Tolles, Assistant United States Attorney, San Diego, California, for the defendant-appellee.

OPINION

NOONAN, Circuit Judge:

Mary Sullivan appeals the grant of summary judgment to the United States in this action under the Federal Tort Claims Act (the FTCA). The central question is whether the district court properly excluded the proffered testimony of the plaintiff's medical expert. We reverse the judgment of the district court and remand.

FACTS

We state the facts as presented by the party not moving for summary judgment, as follows:

On April 2, 1999, Mary Sullivan underwent surgery at the Naval Medical Center (the hospital). A mastectomy was per-

formed by Thomas Nelson, M.D., on her left breast to remove cancer. Then Amy Wandel, M.D., F.A.C.S., performed by endoscope the reconstruction of Sullivan's left breast by relocating a flap consisting of the latissimus dorsi muscle together with overlying tissue and a small panel of skin, moved through the axilla to her chest. Dr. Wandel then performed a mastopexy or reduction of the right breast. According to Dr. Wandel's report of the two operations performed by her, they began at 10:30 and ended at 23.50 or 13 hours and twenty minutes later:

> The skin was incised superiorly and using electrocautery the skin was elevated off the deep fat of the back and the latissimus. The endoscope was brought up in the field to dissect up into the axilla to dissect the overlying skin off the latissimus and deep fat. The dissection was carried from the axilla down to the scapula and to the midline of the back. Once this was completed the inferior incision was made and using electrocautery the skin was elevated off the fat inferiorly, harvesting a maximum of fat with the flap . . .
>
> . . . [A]n axillary incision was made and the endoscope was brought through the axillary incision and the dissection was carried inferiorly along the anterior border of the latissimus to complete the dissection. The tunnel for passing the latissimus into the chest wall was then completed using electrocautery. The muscle and skin were then passed into the chest wall and the remainder of the axillary dissection was performed using careful blunt disssection.

In lay terms, the report indicates (1) a cut into the skin where the deep back fat was; (2) a cut into this fat by the endoscope up to the axilla or armpit; (3) a continuation of the cut from the armpit to the scapula or shoulder bone and to the middle of the back; (4) a cut to harvest fat and flap; (5) a cut

in the armpit to bring through the endoscope; (6) another cut along the border of the latissimus; and (7) a further cut in the armpit. After these events, so the report continues, "Two drains were placed, one Blake drain in the axilla and one Jackson-Pratt along the medial wall." According to the report, there were "no complications." No unexpected delays are mentioned.

Sullivan suffered severe scarring and experienced muscle weakness in her lower back. She had additional surgery to correct the disfigurement of her back. She also had additional plastic surgery on her breasts.

PROCEEDINGS

On March 9, 2001, Sullivan brought this suit. On May 15, 2002, Sullivan's deposition was taken. She testified that the morning after the operation, she felt a hole in her back. She asked Dr. Wandel what it was, and was told that it was a seroma or, as Dr. Wandel put it, "an area of skin and tissue that sometimes goes dead during surgery." A week later, according to Sullivan, she returned to the hospital, and Dr. Wandel took off the bandage on this area of her back and said to an intern, "I don't know what happened here. She must have laid on something." On April 14, 1999, additional surgery was performed by Dr. Wandel to debride the hole.

Sullivan submitted a written report and deposition testimony of Anne M. Wallace, M.D., associate professor of clinical surgery at the University of California at San Diego, director of its Breast Care Unit, and the author of fourteen articles in the area of breast care. Dr. Wallace had performed plastic surgery on Sullivan after the operations performed by Dr. Wandel.

Dr. Wallace reported:

> There were complications with the equipment in the operating room and the surgery took approxi-

> mately 13 hours. Post-operatively, the patient went on to develop fat nercrosis in the left latissimus flap and a full thickness necrosis of the donor site at the left back region and was told that she had had an infection. She went on to debridement and secondary closure of the back wound which left a large scar and indentation down to the underlying back musculature. The scar tissue then resulted in some chronic back pain.
>
> . . .
>
> Under normal circumstances this form of reconstruction takes 3 to 4 hours to perform. In this particular case, the reconstruction took approximately 13 hours after the mastectomy. That is near triple the time that a normal latissimus dorsi myocutaneous reconstruction should take. It is my opinion that complications which are possible to occur become much more probable to occur because of the length of surgical time. The time for which the wound was open, exposed and manipulated, to a reasonable degree of medical certainty, aggravated an already known complication of a latissimus dorsi flap. . . . The most likely and probable cause of her wound complication following the reconstruction was the prolonged time of surgery and resultant stress it put on the tissue.
>
> . . .

At the heart of Dr. Wallace's report was this opinion:

> It is difficult to always know when a patient is going to have a donor site complication. There are specific risk factors such as smoking, diabetes, etc., of which this patient had none. But stress on a wound because of an excessively long surgical time could result in such a complication. Even though this

> complication can happen when everything is done by the standard of care, the length of surgery lead to a situation in which a possible wound complication became a probable wound complication.

The report included the following foundation:

> 2) The Basis and Reasons for the Expert's Opinion —The reason for my opinion is based on 7 years of surgical oncology and oncologic reconstruction experience, as well as a Fellowship at the MD Anderson Cancer Center where this was a common operation.
>
> 3) The Data and Information [On] Which the Opinion is Based-This information is based on experience with many patients who have had the latissimus dorsi flap reconstruction and second opinions on multiple patients from the community and elsewhere that have also had this procedure. I also have some experience with endoscopic latissimus dorsi harvesting from fellowship training.

In her subsequent deposition by defendant's counsel, Dr. Wallace stated:

> The infection was up in the axilla. And when you turn the patient back to supine, that whole incision is still open, the flap has been turned into it, and then you spend the next hour shaping it, putting drains in it and closing the incision.

Dr. Wallace further testified as to the necrosis of the flap suffered by Sullivan. She could not say with certainty that the infection caused this necrosis and added:

> But infection is one of those causes [of necrosis] and necrosis was along the track of where it was

> coming through right along the axilla. The axilla is right where the pedical was.

Sullivan subsequently submitted the affidavit of Dr. Wallace, dated August 22, 2002, stating that the laboratory report showed that "a wound culture was taken from the incision on Mrs. Sullivan's back" and that the report was "positive for an infection." Dr. Wallace then cited four standard medical texts that stated that the length of an operation was "an influencing factor for infection." She gave as her opinion that "the excessive length of the surgery increased the risk of infection by at least six times," and that it was below the standard of care for the reconstructive surgery to last 10-1/2 hours.

Dr. Wandel, deposed by plaintiff's counsel, testified:

> Q: Was the outcome less that what you expected?
>
> Dr. Wandel: Yes
>
> Q.: In what way?
>
> Dr. Wandel: She had a back wound which required wound care.
>
> Q.: When you went into the surgery, did you expect that she would have a back wound following the surgery?
>
> Dr. Wandel: I expected her to have a healing incision from where I took her flap from. She ended up having a breakdown of that area, which required wound care.

In her deposition, Dr. Wandel went on to deny that the wound was infected and to maintain that the debridement was of dead skin. However, the report from the hospital's lab on

the culture taken at the time of the debridement reads in relevant part as follows:

> Sullivan, Mary Angela
>
> Req Phys: Wandel, Amy G.
>
> Test: Wound Culture Site Spec: Incision (Back)
>
> 1+ Staphylococcus aureus

Photographs of Sullivan's back taken on April 7, 1999, and on subsequent occasions up to September 9, 1999, show a hole in her lower back.

July 19, 2002, the United States moved for summary judgment. Having maturely considered the matter, on October 2, 2002, the district court granted the motion. The district court made these findings of fact (the numbering is added):

> 1. Sullivan's three operations lasted "a total of approximately 13 hours."
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> 2. The time "included an unforseen 45 minute delay."
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> 3. "After the operations, Plaintiff's back incurred bruising on a three-centimeter by three-centimeter area located just above the region from which the skin had been taken for Plaintiff's breast reconstruction. The area did not heal readily but scabbed over, leading to skin loss and scarring."
>
> 4. "Plaintiff also suffered a surgical drain site infection."
>
> 5. "Here, the infection occurred not in the [surgical] wound but rather in the area near the surgical

> drain. . . . It is clear from the record that Plaintiff's infection was located at the surgical drain site . . . . there is no issue of material fact as to the infection site's location."

With this firm conviction that the infection occurred near the drain site, the district court considered whether Dr. Wallace's testimony should be admitted. The district court stated: "Dr. Wallace has not set forth the steps used to reach the conclusion that literature addressing the effect of operative length on the incidence of surgical *wound* infections is analogous to the effect of operative length on the incidence of surgical *drain* infections, much less how that literature applies to bruising at the skin harvest site. Thus, the scientific literature provided by Plaintiff in the instant case does not support Dr. Wallace's opinions." (emphasis in original).

Accordingly, carrying out the gate-keeping function assigned the district court by *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993), the district court ruled Dr. Wallace's expert testimony inadmissible. Sullivan was deprived of any evidence that medical malpractice had caused her injury. The district court granted the United States' motion for summary judgment.

Sullivan appeals.

ANALYSIS

Disputed Facts. In this action under the FTCA, the law of the state where the injury occurred is controlling. 28 U.S.C. § 1346(b); *Carlson v. Green*, 446 U.S. 14, 23 (1980). California law therefore applies. Sullivan must show that it is more probable than not that negligence caused her injuries. *Dumas v. Cooney*, 235 Cal. App. 3d 1593, 1603 (1991). This court reviews a trial court's decision to exclude expert testimony for abuse of discretion. *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 152 (1999).

[1] It is hornbook law, carefully recited by the district court in its opinion, that "the court must view all inferences drawn from the underlying facts in the light most favorable to the nonmoving party. [Citation omitted]. The court must not weigh the evidence . . . or make credibility determinations in evaluating a motion for summary judgment." Having articulated these familiar rules, the district court failed to follow them. Each of the district court judge's findings that we have numbered above violates these canons.

1. According to Dr. Wandel's report, the total time of the two operations performed by her was 13-1/2 hours; the total time for all three surgeries was 14-1/2 hours.

2. The delay caused by the misplacing and then malfunctioning endoscope was between 1-1/4 and 1-1/2 hours.

3. "Bruising," the term used by the government and adopted by the district court — means injury to blood capillaries. As Webster's *Third New International Dictionary* defines it, a bruise is "an injury transmitted through unbroken skin to underlying tissue causing rupture of small blood vessels and escape of blood into the tissue with resulting discoloration." Sullivan's testimony was that there was a hole in her back. A hole is the opposite of a bruise: the skin is broken. Dr. Wandel herself described the area as a wound. An inference could be drawn that the skin had died from the infection. It is a disputed material fact whether there was bruising or a hole. The size of the injury at the site of the harvest is also disputed. Dr. Wandel described it as three centimeters by three centimeters or a square somewhat over an inch. The district court adopted this description. Sullivan described the hole as the size of a baseball, a dimension clearly more than a square inch.

4. and 5. The infection arguably occurred not at a drain site but in a surgical wound as part of the operation. The district court believed Dr. Wandel's statement that a surgical wound

made during the main operation was not infected and interpreted the lab report to refer to the drain site. Doing so, the district court made a judgment of credibility and drew an inference against the plaintiff.

The district court also misinterpreted Dr. Wallace's deposition that "the infection was up in the axilla." The district court assumed that this statement places the infection at the drain site at the armpit. A reading of Dr. Wallace's testimony shows that she referred to Dr. Wandel "putting drains in" after the infection in the axilla. Her further testimony, quoted above, shows she believed that the infection was "coming through right along the axilla." At least inferentially, Dr. Wallace's testimony related to a wound inflicted during the surgery when the endoscope was "brought up in the field to dissect up into the axilla" as described by Dr. Wandel's report. Dr. Wallace clearly differentiated the drains from the wounds necessary to move the latissimus. They did not occur "after the operations."

Dr. Wandel testified to necrosis of the skin in the back wound. An inference could be drawn that the skin death was caused by infection. The inference may be supported by another inference to be drawn from Dr. Wandel's reference to "debridement of the wound." According to *Webster's*, debridement is "surgical removal of lacerated, devitalized or contaminated tissue." If the tissue was either contaminated or devitalized, infection could be inferred to be the cause.

[2] On the basis of its misinterpretations of Dr. Wallace and its resolution of the disputes over material facts, the district court did not see the relevance of the medical literature relating the length of the operation to the risk of infection of the surgical wound that was part of the operation. Basing itself on the resolution of a disputed material issue of fact and making its own errors of fact, the district court excluded Dr. Wallace's testimony and committed reversible error.

[3] *The admissibility of the expert's testimony*. Even if the district court had not abused its discretion by misapprehending the evidence, it applied an inappropriately rigid *Daubert* standard to medical expert testimony. *See United States v. Alviso*, 152 F.3d 1195, 1198 (9th Cir. 1998) (explaining that a district court abuses its discretion when it makes an error of law in deciding evidentiary issues).

[4] The district court directed the exclusion of Dr. Wallace's testimony by virtue of *Daubert*, 509 U.S. 579. While *Daubert* remains relevant, the more apposite case is *Kumho Tire Co., Ltd.*, 526 U.S. 137. *Kumho* resolved a doubt as to whether *Daubert* applied to experience-based testimony. Interpreting *Daubert* and *Fed. R. Evid.* 702, *Kumho* held the district court's gatekeeping should govern the admission not only of scientific but "technical" and "other specialized knowledge." *Id.* at 141. Dr. Wallace's proffered testimony is, therefore, subject to the *Daubert-Kumho* criteria. The testimony must be both reliable and relevant.

[5] Dr. Wallace's opinion that an abnormally long back operation substantially increased the risk of complications including wound infection and skin necrosis appears to be relevant to this case. Its reliability appears to be supported by the four textbooks to which Dr. Wallace referred. Each textbook identifies the length of operation as a major factor in causing infection during surgery. *Sabiston on Surgery* (15th ed. 1997) says an exogenous infection of a surgical wound "is uncommon and usually indicates a break in aseptic technique or an excessively lengthy procedure." *Schwartz on Principles of Surgery* (1999 ed.) lists under "Influencing Factors in Wound Infection" the "duration of operation." The textbook states: "Duration of operation is an important variable; 3.6 percent of procedures that take 30 minutes or less become infected, while 18 percent of procedures over 6 hours in duration are followed by infection." *Fry on Surgical Infections* (1995) states: "Several authors pointed out that the development of a seroma after mastectomy is strongly associated with the

development of wound infection." Fry cites four authorities for "the length of the procedure" leading to "the development of complications." *Hoeprick on Infectious Diseases* (1994) states as to infection following surgery: "Technical factors, such as the skill and experience of the surgeon, affect the risk of SWI [surgical wound infection]. Increased tissue trauma and prolonged duration of surgery are contributing factors."

[6] The principle that the duration of the surgery bears on the likelihood of infection appears to be generally accepted. It is a particular application of broader principles going back to Pasteur and Lister on the role of bacteria and the likelihood of bacteria infecting open wounds. The application of both the broader and narrower principles to the case at hand is properly the domain of a surgeon experienced in the field. The textbooks cannot say what increase in the risk of infection is probable in the case; that estimate may be made by the expert putting the principles to work. Therefore, the district court abused its discretion and invaded the province of the expert by requiring the texts to state the precise type of harm explained by the specialized testimony of a medical expert.

[7] We cannot affirm the judgment of the district court on the basis that its exclusion of Dr. Wallace's testimony was correct on other grounds. *Cf. Cigna Prop. and Cas. Ins. Co. v. Polaris Pictures Corp.*, 159 F.3d 412, 418 (9th Cir. 1998). However, the determination of whether this expert's testimony is admissible in this case is not ours to make now; in the first instance it is to be made by the district court. *Kumho*, 526 U.S. at 152. The district court is to apply "the specific factors identified in *Daubert* where they are reasonable measures of the reliability of expert testimony." *Id.* As the expert testimony is based on specialized as distinguished from scientific knowledge, the *Daubert* factors are not intended to be exhaustive or unduly restrictive. *See United States v. Hankey*, 203 F.3d 1160, 1168 (9th Cir. 2000). In a case involving specific surgeries, the district court is to proceed as a good sur-

geon would in determining what is reliable knowledge in the surgical profession.

Reassignment. As the case must be remanded, the question arises as to whether it should be assigned to a different judge. Under the FTCA, the district judge, not a jury, is the trier of fact. In this case, the district judge has already committed himself to the defendant's view of the facts. We do not believe that the district judge has a bias in favor of the government. We do believe that having expressed this commitment in writing it would be difficult for the judge to come to trial on the merits with an open mind. *United States v. Ferguson*, 624 F.2d 81, 83 (9th Cir. 1980). We direct that the case be assigned to a different judge.

[8] The judgment of the district court is REVERSED; the case is REMANDED for proceedings in accordance with this opinion.